

○115, 205, 215	No sound when any key is pressed (no -15V supply) and no rhythm — organ dead . . .	1
○105, 115, 205, 215, ○305, 315	No sound even through power supply voltages check good	2
○105, 115, 205, 215, ○305, 315	Transformer emits noise	3
○105, 115, 205, 215, ○305, 315	Slide Variable Resistors create noise when moved	4
○105, 115, 205, 215, ○305, 315	Incorrect pitch	5
○215, 305, 315	No rhythm sound	6
○105, 115, 205, 215, ○305, 315	Noise when power is turned on and no key is depressed	7
○105, 115, 205, 215, ○305, 315	Distorted sound in main or tremolo channels	8
○105, 115, 205, 215, ○305, 315	Speaker buzzes	9
○105, 115, 205, 215, ○305, 315	No sound except rhythm	10
○215, 305, 315	The sound of every "nth" key on the upper keyboard is missing	11
○215, 305, 315	Cypher when sustain is turned on (long sustain) : example 1	12
○215, 305, 315	Cypher when sustain is turned on (sustain tablet on) : example 2	13
○215	Hissing, periodic noise	14
○205, 215	No sound when lower keyboard tremolo is turned on	15
○205, 215	Noise when power supply is turned on	16
○215, 305, 315	Sustain can not be applied to one note on the special preset	17
○215, 305, 315	No sound or distorted sound	18
○215, 305, 315	No sound, intermittent sound from FLUTE TVR's	19
○215, 305, 315	No rhythm sound (ABC, Arpeggio)	20
○205, 305, 315	Noise when Wah-Brass (Rhythmic Wah) is turned on	21
○305, 315, C-40, C-60, D-80 E-30, E-50, E-70	Tremolo does not function (motor does not rotate)	22
○C60 C-40, D-80	Noise from tremolo speaker	23
○C60 C-40, D-80	No sound	24
○E70, E50	No sound, abnormal sound from certain notes in the ORCHESTRA : example 1 . . .	25
○E70, E50	No sound, abnormal sound from certain notes in the ORCHESTRA : example 2 . . .	26
○E70, E50	No sound, abnormal sound from certain notes in the ORCHESTRA : example 3 . . .	27
○E70, E50	Abnormal LK ORCHESTRA sound (A.D.S.R)	28
○E70 E-30, E-50	PK bounce in sound even when depressed once	29



PROBLEM: Tremolo does not function (motor does not rotate).



CAUSE:

Faulty power transistor Tr3 or Tr4 (2SD525) in the tremolo drive circuit.



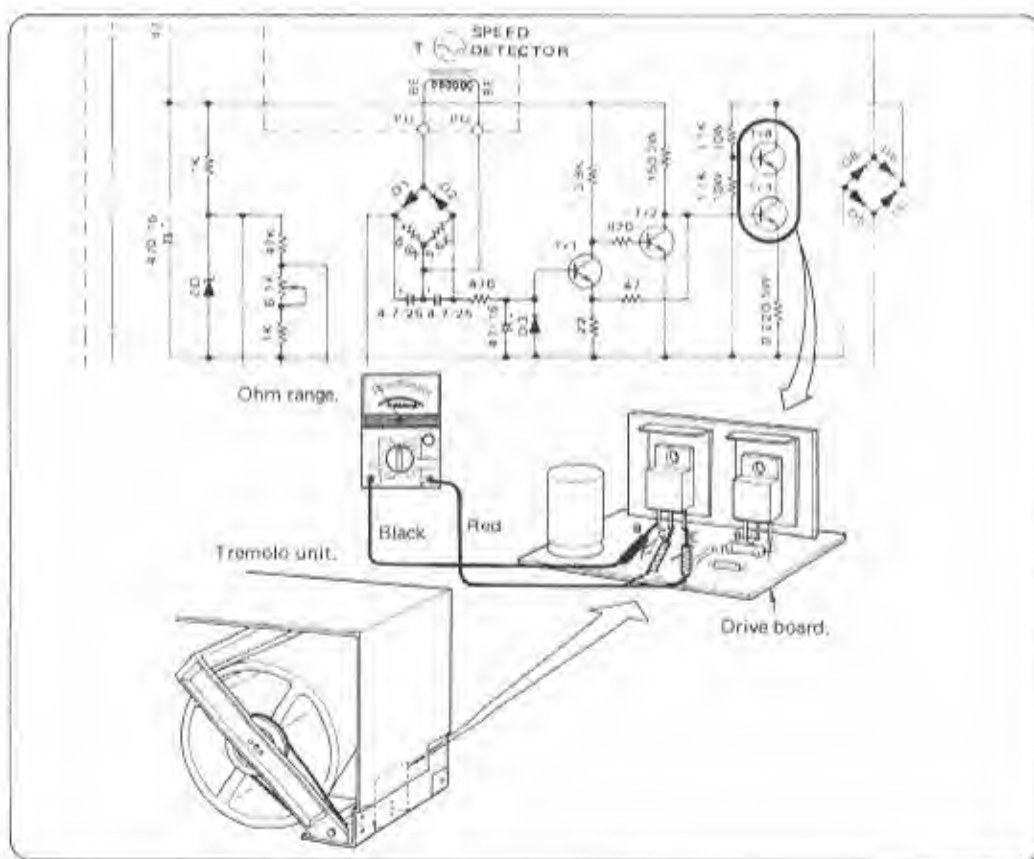
CURE:

Replace the faulty transistor.



CHECK:

Remove the transistors and check with ohm meter.



CAUTION:

In addition to the above check, check thoroughly for open or nearly open transistors. If a slightly unusual VOM reading is obtained, the transistor should be replaced.



PARTS:

Part No.	Part Name
1D052500	Power Transistor 2SD525



PROBLEM: Noise from tremolo speaker.



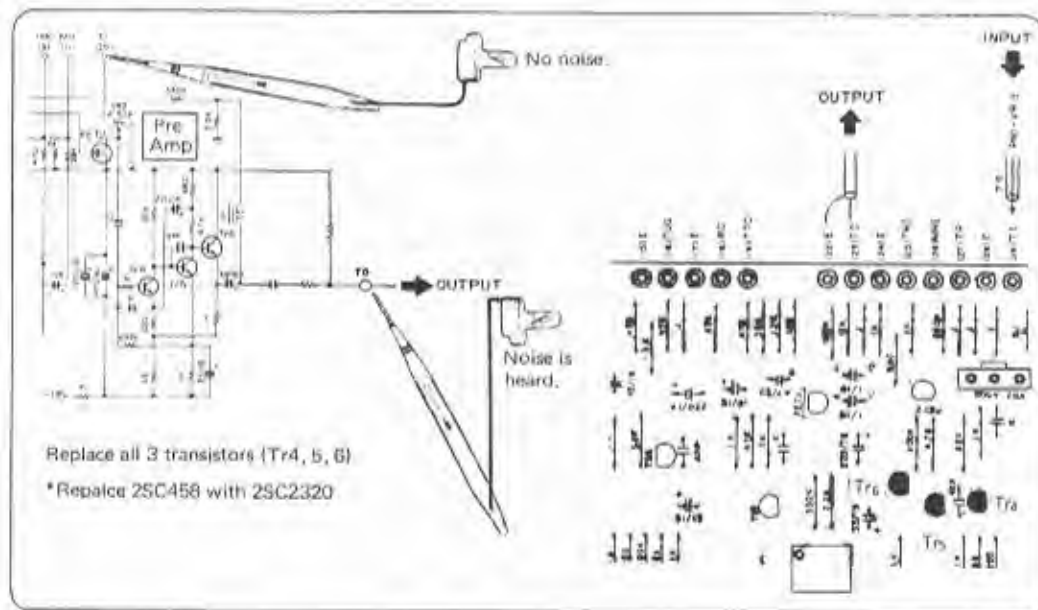
Faulty tremolo preamplifier transistor Tr4, Tr5 or Tr6 (2SC458) on the A board.



Replace the faulty transistor.



Check to see if the noise varies with the EXP. Pedal and TOTAL VR, if the noise does vary with the EXP. Pedal and TOTAL VR, then it is coming from before the EXP. Pedal or TOTAL VR. Check the A board TUO terminals with a signal tracer. **Check that the noise can be heard here and not at the TI terminal.**



Part No.	Part Name
IC232030	Transistor 2SC2320



PROBLEM: No sound.



CAUSE:

The power supply unit fuse (F702) or the amplifier fuse-resistor (100 ohm) has blown.



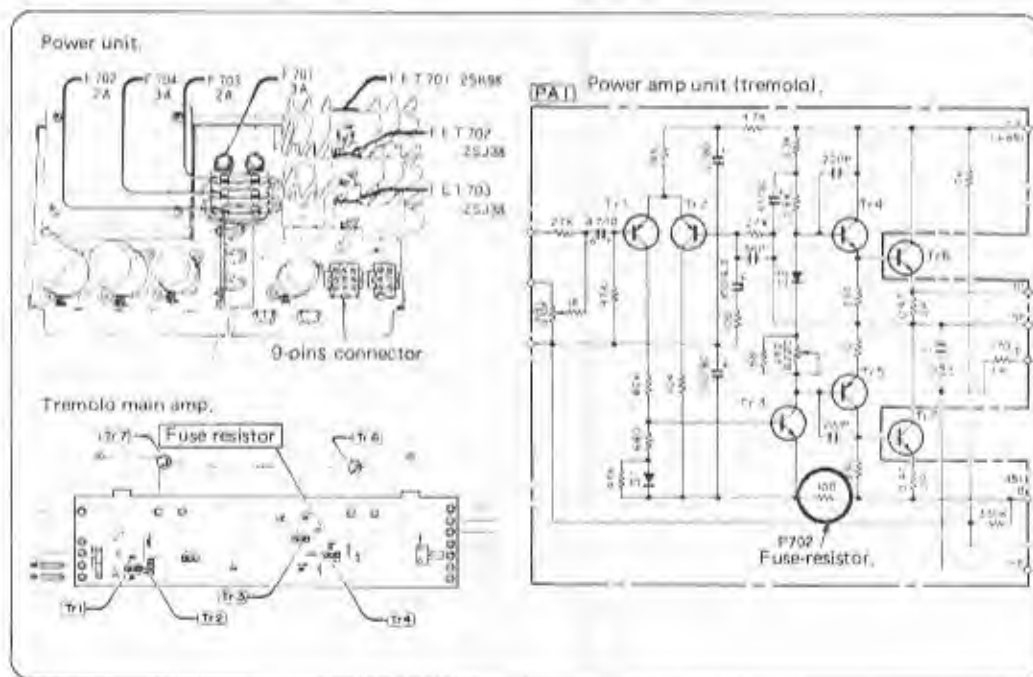
CURE:

Replace the blown fuse.



CHECK:

1. First, disconnect the power supply unit 9-pin connector and turn on the power switch, then check that the power supply fuse has not blown. If the fuse is OK, the fault is in the power amplifier circuit.
2. Disconnect the tremolo power amplifier 4-pin connector and turn on the power switch, then check to see if the fuse is blown.
3. If the 100 ohm fuse-resistor is blown, it must be replaced.



NOTE:

Check all related transistors in addition to replacing the fuse-resistor.



PARTS:

Part No.	Part Name
KB000230	Fuse 2A/125V
HW494100	Fuse resistor 100 ohms



CAUSE:



CURE:

CHECK:

Diagram of a VEG board (digital rack) showing connections for envelope voltage output and a VOM meter.

The VEG board has four columns of modules, each labeled at the bottom:

- 1K VCF-EG $\times 7$
- UK VCA-EG $\times 2$
- LK VCF-EG $\times 7$
- LK VCA-EG $\times 7$

On the left, arrows indicate the 1st note, 2nd note, and 7th note inputs. On the right, a dashed circle highlights two modules in the LK VCA-EG column, labeled PK-VCF-EG and PK-VCA-EG. A large arrow points from the bottom of the LK VCA-EG column to the "Envelope voltage output" terminal of the EG1 YM20800 chip.

The EG1 YM20800 chip has pins 8, 9, 16, and 18 labeled. A VOM meter is connected to the output with a Black lead to pin 8 and a Red lead to pin 16. The meter is set to the DC 10V Range.

If the VOM needle does not deflect even when a key is pressed, the EG1 is faulty.



NOTE:

Common **PARTS:**

25



PROBLEM: No sound, abnormal sound from certain notes in the ORCHESTRA : example 2.



CAUSE:

Faulty VCF circuit IC (iG00155) on the VCF board.



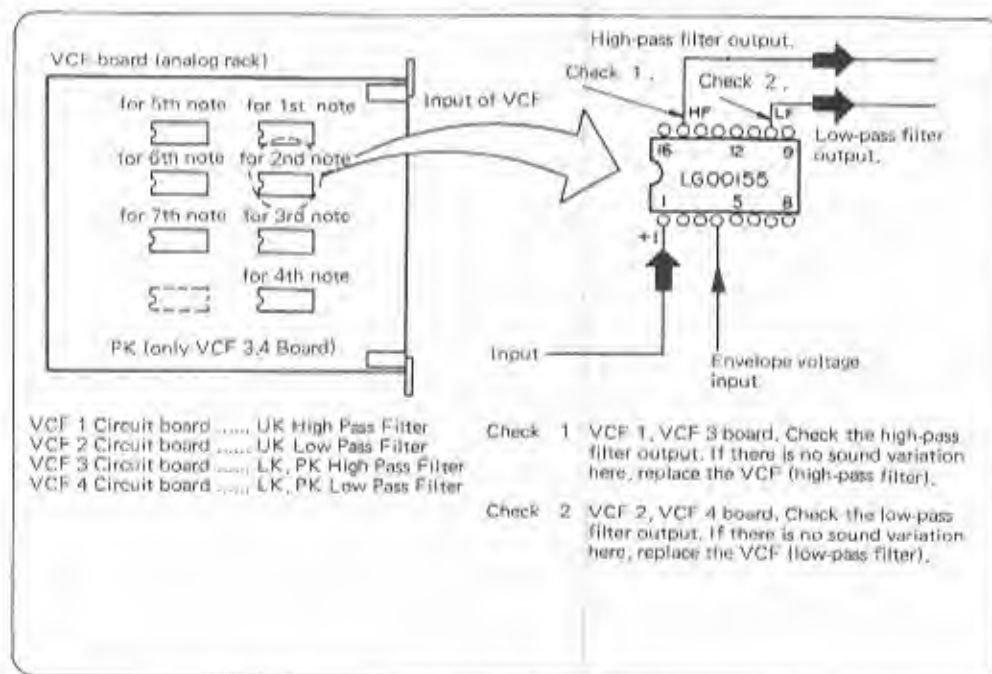
CURE:

Replace the faulty IC.



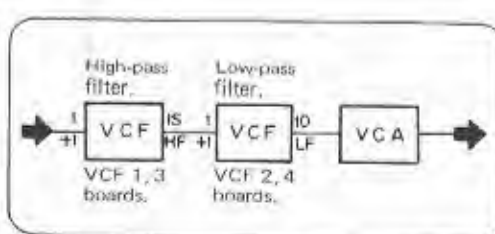
CHECK:

Be sure that the envelope generator is OK as described in "No sound, abnormal sound from certain notes in the orchestra group 1" (on page 25). Press, and hold down, each key in succession until the abnormal sounding note is heard. Use a signal tracer to troubleshoot the malfunctioning channel.



NOTE:

The same VCF circuit is used for low-pass and high-pass filters (different output terminals). Signal flow is as shown in the diagram.



PARTS:

Part No.	Part Name
iG001550	IC iG00155



PROBLEM: No sound, abnormal sound from certain notes in the ORCHESTRA :example 3.



CAUSE:

Faulty VCA circuit (iG00151) on the VCA board.



CURE:

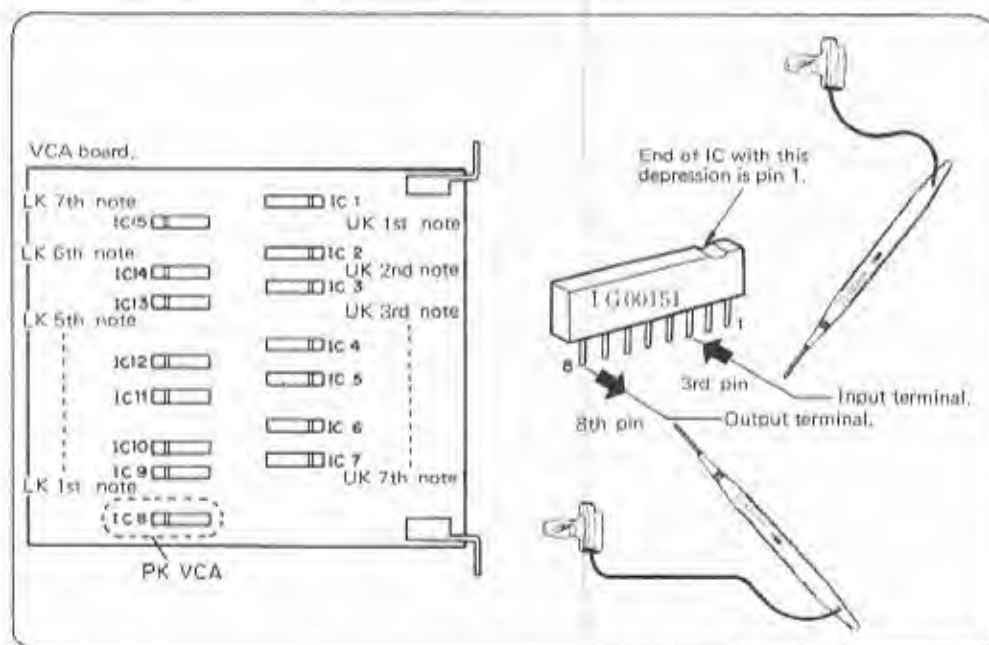
Replace the faulty IC (iG00151).



CHECK:

Check to see that the envelope generator is OK as described in "No sound, abnormal sound from certain notes in the orchestra group 1" (on page 25.) and the VCF's on page 26.

- First locate the no-sound channel IC.
- Then, compare the input and output with a signal tracer. Check that the signal can be heard before but not after the IC before replacing.



NOTE:

Check carefully to locate the faulty channel. Make sure that a signal is being fed to the faulty channel by fully pressing the appropriate keyboard key. The method of pressing the keyboard to locate the faulty channel is described in service note "No sound, abnormal sound from certain notes in the organ group 1". (on page 25.).



PARTS:

Part No.	Part Name
iG001510	IC iG00151



PROBLEM: Abnormal LK ORCHESTRA sound (A.D.S.R) from all seven notes.



CAUSE:

Shorted A.D.S.R. preset diode matrix (IS2473) on the TPR3 board.



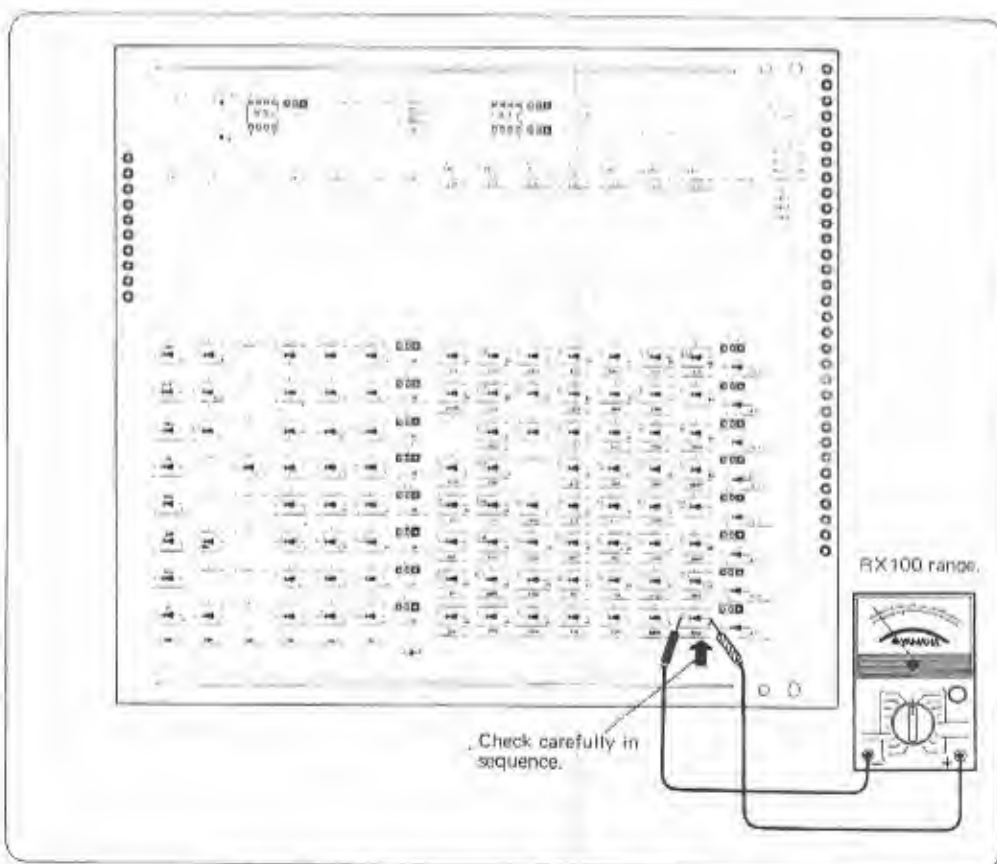
CURE:

Replace the faulty diode IS2473 (iF00040).



CHECK:

With a VOM set to the RX100 range, test the diodes one by one (reverse polarity), proceeding in the direction indicated by the arrow in the diagram. When a diode is located that causes the largest meter deflection, check for reverse conductance. The diode that causes the largest meter deflection is shorted.



PARTS:

Part No.	Part Name
iF000040	Diode IS1555

This same problem and symptom may occur in the UK or PK ORCHESTRA. Proceed with the same check on the TPR1, 2 and 4 boards.



PROBLEM: PK bounce in sound even when depressed once



Loose pedal keyboard PK pressure bolt.

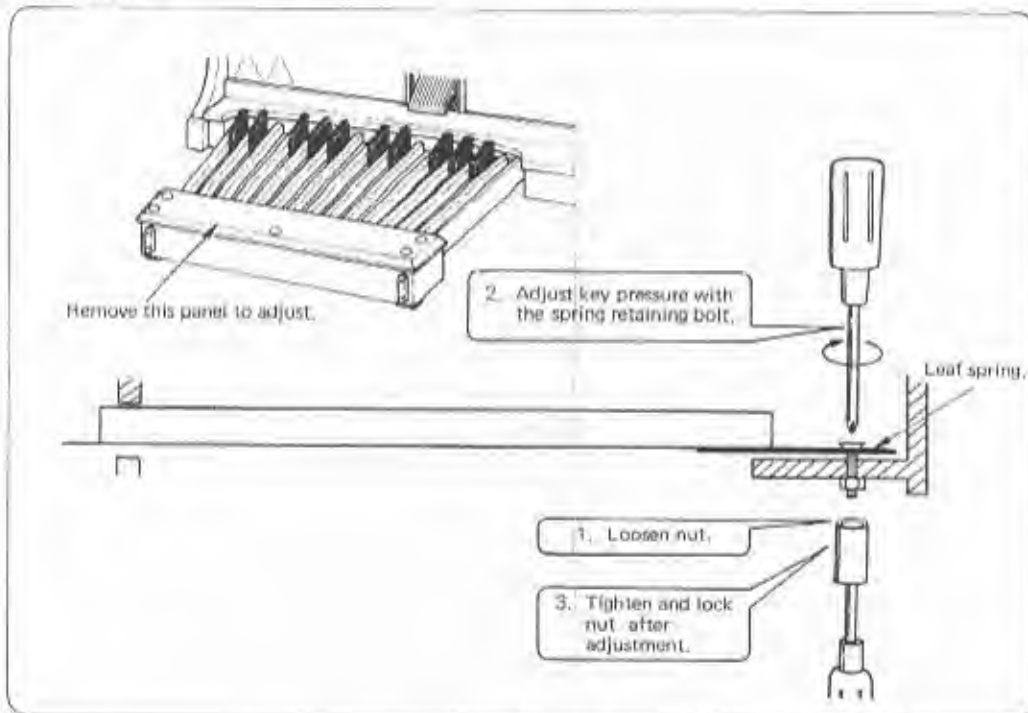


If a PK pressure bolt is loose, a key is pressed causes the PK switch contacts a second or more time.

The faulty key is easy to locate by using a percussive sound such as BASS GUITAR, and pressing/releasing the keys quickly. This is because the touch of the faulty key is lighter than the normal keys.



Adjust the PK leaf spring retaining bolt until the key touch is the same (as heavy) as the normal keys.



Adjust so that no key is heavier or lighter in touch than the others.